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| Notice of Allowability | Application No. | Applicant(s) | |
| | 10/067,431 | ALLEN, JEFFREY PETER | |
| | Examiner | Art Unit | |
| | Dah-Wei D. Yuan | 1745 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/4/04.
2. ☒ The allowed claim(s) is/are 29-38.
3. ☒ The drawings filed on 04 February 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

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FUEL CELL CURRENT COLLECTOR

Examiner: Yuan

S.N. 10/067,431

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May 12, 2004

Detailed Action

1. The Applicant's Request for Reconsideration filed on May 4, 2004 was received.
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on March 24, 2004.

Examiner's Amendment

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
4. This application is in condition for allowance except for the presence of claims 1-28 non-elected without traverse. Accordingly, claims 1-28 have been cancelled.

Claim Rejections

5. The claim rejections under 35 U.S.C. 112, first paragraph, on claims 29-38 are withdrawn because Applicant's arguments are persuasive. Supports for the amendment filed on January 2, 2004 can be found, in particular, in Abstract and Figure 1 of the instant specification.

Reasons for Allowance

6. Claims 29-38 are allowed. The invention of independent claim 29 recites a subassembly for use with a fuel cell comprising a cathode, a plurality of cathode current collectors, an anode, a plurality of anode current collectors, and a separator, wherein at least one of the plurality of cathode current collectors and the plurality of anode current collectors comprises flat wires. The closest prior arts of record, Bregoli and McElroy, do not teach or suggest the use of flat wires as current collectors for at least one of the plurality of cathode currents and the plurality of anode current collectors in a fuel cell subassembly. Jaffrey reference teaches away from the use of flat wires because difficulty in matching the thermal expansion coefficient of the current collector with that of the electrodes in the fuel cells. The instant disclosure teaches the use of flat wires as current collector to create a secondary lateral conduit, which can improve balancing of pressures and compositions of the reactant gases. The invention of independent claim 34 recites a fuel cell stack comprising a plurality of subassemblies, each subassembly comprising a cathode, a plurality of cathode current collectors, an anode, a plurality of anode current collectors, a separator and a plurality of electrolyte holding members disposed between the subassemblies, wherein at least one of the plurality of cathode current collectors and the plurality of anode current collectors comprises flat wires. The closest prior arts of record, Bregoli and McElroy, do not teach or suggest the use of flat wires as current collectors for at least one of the plurality of cathode currents and the plurality of anode current collectors in a fuel cell stack. Jaffrey reference teaches away from the use of flat wires because difficulty in matching the thermal expansion coefficient of the current collector with that of the electrodes in the fuel cells. The

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instant disclosure teaches the use of flat wires as current collector to create a secondary lateral conduit, which can improve balancing of pressures and compositions of the reactant gases.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan
May 12, 2004

